



Nepal Vector-Borne Disease Program Update

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In 1998, a Memorandum of Understanding was signed between the Ministry of Health of His Majesty's Government (HMG) of Nepal and the U.S. Agency for International Development (USAID) to confirm both parties' commitment to collaboration in strengthening the capacity and programs of HMG to control selected infectious diseases. Following this, the Environmental Health Project (EHP), funded by USAID, launched a five-year program in Nepal to assist the Ministry of Health with the vector-borne disease component of the Nepal Infectious Disease Program (see EHP Brief 3).

The Nepal Vector-Borne Disease Program has five objectives:

1. Strengthen the institutional capacity of the Vector-Borne Disease Research and Training Center (VBDRTC)
2. Improve the surveillance capacity of the Ministry of Health in early detection and response to outbreaks of malaria, kala-azar and Japanese encephalitis (JE) (priority diseases identified by HMG).
3. Improve the availability to the Ministry of Health of information on malaria, kala-azar and JE.
4. Develop and pilot-test sustainable intervention strategies for the prevention and control of malaria, kala-azar and JE.
5. Assist the Ministry of Health in establishing intercountry linkages for addressing cross-border prevention and control of priority vector-borne diseases.

Strategic Directions

Within this framework, EHP has implemented a number of activities, most of which have been carried out in collaboration with national, regional and international partners:

- **Development of a cadre of experienced infectious disease experts:** To address the need for local technical expertise in the field of vector-borne diseases, a pool of over 50 experts was identified whose training has been further strengthened by EHP in laboratory diagnosis, medical entomology, parasitology, sociobehavioral aspects and mapping approaches. The HMG, for design and implementation of infectious disease programs, is now able to draw upon this cadre of experts.
- **Introduction of new technologies and diagnostic strengthening:** With EHP support, laboratory diagnostic facilities for kala-azar and Japanese encephalitis have been established in different regional centers and district hospitals. The K39 dipstick—a new rapid diagnostic technology for the laboratory diagnosis of kala-azar—and dipsticks for the diagnosis of *P. falciparum* malaria also have been introduced in the country. These technologies will allow for more rapid, early and accurate diagnosis of these two diseases and ultimately improve case management.
- **Strengthening surveillance:** Based on an assessment and evaluation of the Early Warning Reporting System (EWARS) carried out by EHP and the Ministry of Health, approaches for strengthening the system are being tested in eight pilot sites and will be expanded nationwide to the remaining 18 sentinel sites. The challenge of linking decisions to health data and improving HMG response to outbreaks is being addressed through the formation of operational EWARS teams at the district level. An effort to decentralize decision making and facilitate data exchange among the district teams will ensure more rapid and appropriate response.



- **Increasing local research and training capacity:** EHP works with VBDRTC's Development Board to increase its training and research capabilities. Since EHP's involvement began, VBDRTC was designated as the nodal center, which coordinates cross-border activities for Nepal, as a focal point for malaria for the South Asian Association for Regional Cooperation (SAARC), and as a secretariat for Malaria Drug Resistance Surveillance Network for the BBIN countries (Bangladesh, Bhutan, India and Nepal).
 - **Improved data for program planning:** A comprehensive vector-borne disease database has been developed and made available via CD-Rom and other channels to the HMG and other partners for use in program planning and decision making. This data has been used in the design and selection of community-based interventions for the prevention and control of kala-azar and malaria in a process led by EHP, which involved local government, NGOs, vector-borne disease experts and the Ministry of Health.
 - **Community-based prevention and control activities:** In communities in Dhanusha and Mahottari districts, EHP collaborates with several local and international nongovernmental organizations and Ministry of Health district level health personnel in testing interventions for the prevention and control of vector-borne diseases. Once this testing is completed, recommendations will be made to the HMG for the scaling up of these interventions to other high-risk areas.
- Identification of high-risk villages
 - Development and implementation of a behavior change strategy that emphasizes disease recognition and care seeking
 - Training of Female Community Health Volunteers, other community health workers and Village Development Committee members
 - Orientation of health personnel in improved diagnosis and treatment
 - Operations research, which complements the goal of effective programs.
- **Cross-border collaboration and networking:** EHP initiated cross-border collaborative activities on vector-borne diseases. An inter-country agreement was secured from Bangladesh, Bhutan, India and Nepal (BBIN) to address sharing of information, standardize surveillance and laboratory diagnoses for vector-borne diseases. The network has launched its World Wide Web site at <http://www.bbin.org>. Other cross border activities include collaboration with Bihar State officials in India on kala-azar surveillance and the creation of a malaria drug and insecticide resistance database for multi-country use.

For more information on the Nepal Vector-Borne Disease Program, please contact: Dr. Panduka Wijeyaratne at panduwij@ehp.wlink.com.np or Ms. Lisa Nichols at nicholsl@ehproject.org.

Highlights: Testing of interventions began in 2001. To date, the following has been completed: